The Workshop.

A Monthly Journal, devoted to Progress of the Useful Arts

EDITED BY

PROF. W. BAUMER, I. SCHNORR AND OTHERS.

VOL. I. No. 8.

On Italian Renaissance in its relations to Architecture and the Industrial Arts.

To resuscitate Antiquity was the aim of those grand Italian artists of the 15th and 16th centuries, and indeed they succeeded in reproducing in their creations the eternal and immutable laws of the Beautiful as thoroughly as the Ancients during the periods of their greatest achievements in Art. The latter, refined by earnest study which can be traced back to the earliest times, to a degree which now only are we able to appreciate fully, give in all their artistic productions, from the temple down to the smallest vessel, a truthful expression to the first principles of Beauty in Art, — Uniformity and Simplicity. Adhering to these, they produced monumental structures, marked by grandeur of conception and disposition, and enhanced by the most exquisite finish of workmanship and execution in the costliest materials. Beholding, for instance, the Colosseum at Rome, its imposing grandeur forces itself on the mind at the first glance. Merely a gigantic oval of four stories, the three lower ones consisting of deep, semi-circular arcades, divided by simple columns, supporting bold, unbroken entablatures, crossing the building in long vanishing lines of the most graceful curvatures, we are struck by its wonderful dimensions, its great boldness and beauty of disposition. It is the repetition of arch beyond arch, and story on story, that gives a variety and an appearance of size; and, combined with its magnitude, its form and its associations, leads the mind on, to realize that overpowering impression this building produces.

The same fundamental law runs through all the creations of Classical Art down to the smallest objects worked by hand, witness the Pompeian vessels and utensils; everywhere we see the same simplicity and harmony of form, the graceful sweep, the admirable elegance of outlines, while the decorative devices, generally arranged near the brim in form of flowing scroll borders of flat, conventional design, frequently inlaid in silver or tin, by no means interfere with the contours. Only at the spout and handle are thrown off rich ornaments, clinging round the body and neck of the vessel. But even the slightest surface ornament is most exquisite and elegant in all its details, as if to rival and idealize nature. Evidently form and proportion are the prominent features in all these productions, great or small, and guided by these principles the Greeks attained the acmè of perfection. For the most part very simple relations, elaborated and established by practical experience through century after century, the hallowed traditions of proportion, transmitted from generation to generation through all the later periods of Art, have imparted to the Renaissance epoch a degree of refinement and perfection in which it may vie with the best time of Grecian Art, and caused it to maintain its hold till long afterwards, when, during the age of Louis XIV and XV, it helped to preserve art in its decline from utter ruin and destitution. We, however, less fortunate, are reduced to give ourselves up to laborious researches, in order to recover what the preceding generation allowed to fall into oblivion.

For many the Renaissance is nothing but the reintroduction of Classical forms, the servile counterfeit of some obsolete style. But most of the creations of the Antique, being true and living utterances of fundamental and unchangeable laws, are above all suggestive of the first and indispensable requirements of any work of art, viz., truth, fitness and beauty. Moreover the Italian nation at this epoch was imbued with a degree of expressiveness and individuality, and with an exuberance of vigour which found their natural course only in the creation of new and original forms, and in the exercise of their own inventive genius on old traditional ones, which, chosen with great care and judgment, they elaborated and made their own. Thus the great masters of the Renaissance period never fell into the same errors which we observe in the later productions of Roman Art; for the Cinquecentists, by the presence of a refined taste, and innate perception, by a wise and noble economy of the resources of their art, created works which in some respects range with, and are scarcely surpassed by, the great master-pieces of the Greeks.

In the year 1402, while excavating, to the very

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basements, the ruins of ancient Rome, half interred amongst wild heather and rubble-work, young Brunelleschi and his friend Donatello were taken for seekers after hidden treasures and became the objects of public raillery. But they found a treasure which, at the dawn of a new era, soon placed their time in the van of Modern Art. In order to gain his livelihood, and while becoming familiar with every form of Roman Art, Brunelleschi, being also a skilful goldsmith, enchased precious stones in gold. A child of that happy age, which was distinguished by the association and equality of all the branches of art, he was one of those artists, who, under the hardships of life, had to master the difficulties imposed by the material, while we, their disciples and followers, work far too much, from the time of our infancy, on the patient surface of the paper.

Brunelleschi measures and draws at Rome, and when, in the year 1420, he reappears in Florence, his native city, everybody follows his lead because he is the man who knows what he means. Working with fire and energy he designs and establishes in grand strokes the leading features of modern architecture and decoration, thus leaving his mark on the Art of his age.

The dome of Santa Maria del Fiore is his work, the vaulting of which surpasses, in lightness, boldness and judiciousness of construction, all the Ancient Roman works. Its marble lantern, 70 feet high, is one of the greatest ornamental structures of the Cinque-cento style. In this and in other similar works, he seized on the circular form, in which the dome is the great feature, the lower part of the edifice being generally enriched by niches. Moulding the old Byzantine type to his fancy, he gives the impulse to those many domical churches, in plan the Greek cross, whose interior, by the harmonious play of the lines of its many curvatures, by the magical *chiaroscuro*, the concentrated light entering only from the top, produces a most fascinating impression on the mind, the exterior, full of sparkling effect, appearing like a marvellous, fairy-like structure in crystal. Compared with a Gothic church of the same size, the edifice, showing great repose and breadth of design, is quite otherwise imposing and majestic.

Bramante d'Urbino, born in the same year (1446) in which Brunelleschi, his great predecessor, died, is the designer of St. Peter's at Rome, one of the must sublime architectural conceptions that the world has yet seen. A gigantic central dome on a lofty tholobate or drum, forming a sort of clerestory for the introduction of light, surrounded by a colonnade, and crowning the intersection of the great barrel-vaulted nave and transept of the Latin cross, the four angles to be surmounted each by a smaller dome, the arms closed by semicircular apses, and corresponding colonnades, the pillars and walls relieved by niches, — such are the architectural features of a plan, marked by simplicity and grandeur which, had it been adhered to by subsequent architects, would have produced not only the largest and most magnificent, but perhaps also the most beautiful temple ever raised by Christians in honor of their religion.

An element which imparts to all those edifices of the domical type, from the Pantheon down to St. Peters, the stamp of Architectural sublimity, is the admission of the light from the top, flowing down in mighty streams and producing, by contrast with the depth of shadow, an effect of great brilliancy which might have been turned to a better account in our constructions of recent date.

As types of the rectangular form, Brunelleschi erected the nobly conceived basilican churches of S. Lorenzo and S. Spirito, both Latin crosses with flat-roofed nave, the low, vaulted side aisles running all round the interior, the walls being relieved by niches corresponding to each bay. This form however was abandoned again after him; but not so that of the small, but very beautiful church of Badia near Fiesole, so much the more interesting as being the type of all subsequent churches which have been erected in most parts of Europe, up to our time. It is the Latin cross with the barrel-vaulted nave, the side-aisles divided into small separate chapels, a plan of great simplicity which however Leon Battista Alberti, born at Florence, in the year 1404, grandly elaborated in St. Andrea at Mantua. The nave with the mighty waggon-vault coffered and painted, the form of the dome over the intersection of the nave and transept, these are typical features which are for the first time fully developed here, and to which Bramante added the circular apses at the extremities of the transepts and choir with concentric arcades or ambulatories in the interior.

It is again Brunelleschi who in Civil Architecture gives expression to the principles of uniformity and stability in the Florentine style of rustication of the façades of their magnificent palaces, a flat decorative treatment of the wall which characterises the massiveness and solidity of the material. All the fronts of the building are executed in boldly rusticated stones, diminishing in relief towards the upper courses, the voussoirs of the arched windows and doorways radiating towards the common centre, the basement high, massive, appropriately enriched, and capped by a magnificent cornice. There no central part projects from or recedes towards the rest, thus destroying the monumental dignity and repose of the surface; no broken stringcourses, bands, or pediments; not even grouped windows of fanciful design; none of those graceful caryatids of questionable taste; but few and deeply vaulted windows, divided by little columns with beautifully carved capitals, the stringcourses bold and vigorous, and the crowning cornice above all. Of great nobleness and elegance, it displays a profusion, of gracefully designed, carved mouldings, beautiful Corinthian consoles, adorned with acanthus leaves; in the intervals boldly carved flowers in sunk compartments, its projection suiting the rustic mass below, which it so nobly crowns. Nothing is omitted to render it the greatest ornament of the façade, exhibiting a largeness about its parts, and a manly vigour of proportion, that make it the structural expression of a style of unsurpassed grandeur and magnificence.

Simoultaneously with the spontaneous growth and development of Architecture, a great impulse is given to the Useful Arts; thus we see the Art of the metal-

worker practised to perfection in connection with these rusticated façades. Wrought lanterns, torch, festoon and banner-brackets are projecting from doorways, windows and quoins; beautifully conventionalized dragons, griffons and reptiles, or other grotesque monsters and animals, also rich and luxuriant foliage, candelabra and standards, all beautiful specimens of wrought iron work always finely chiselled, but marked by size and massiveness so as to suit the style of the building, give life, elegance, and finish to the grand but sometimes gloomy surface. The doors, treated in the same manner and mounted with handsomely worked bronze-nails, are frequently panelled, richly carved and inlaid.

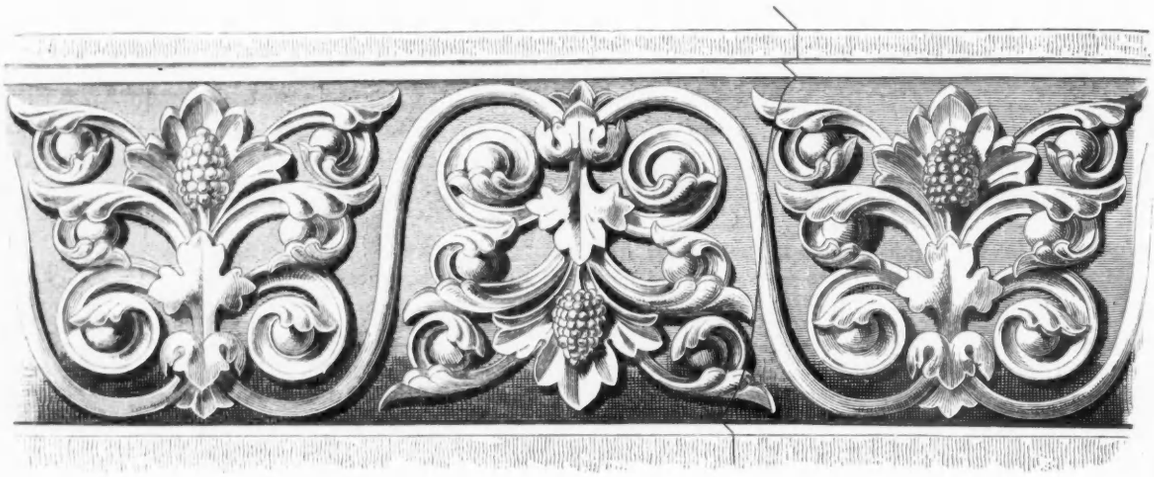
Another style of Palace Architecture, inaugurated by Alberti and fully developed by Bramante, has not the stern magnificence of that just mentioned; but it gains in elegance as much as it loses in grandeur. The rustication of the façade is less salient in projection, and the pilasters form an essential part of the design; but the ornaments of friezes and windows are so delicately and appropriately arranged, the relief so well proportioned to stringcourses and cornice, everything treated so gently and with so much taste, that the whole construction produces a most harmonious and beautiful effect. Bramante has shown here how pilasters are to be designed in order not to divorce the great masses: grouped together, and very little salient, they appear like the Grecian antæ, merely as a slight ornamentation of the surface. After this must be enumerated a group of numerous façades with pedimented doors and windows, flanked by pilasters or three-quarter columns, belonging to the 16th century, displaying a lightness and elegance of profile and detail throughout, which, though neither so grand nor so monumental as the older rusticated palaces, is more suited to modern ideas. Amongst the most characteristic of the whole series are the Florentine palaces, the Larderel and the Bardolini, from the designs of Baccio d'Agnolo, and the Pandolfini, ascribed to the celebrated Raphael d'Urbino.

The conclusion in our next.

SPECIMENS OF ORNAMENTATION.

No. 1.

No. 1. Grecian Style, Antefixe of the Parthenon, Athens (see Part 7, p. 100).



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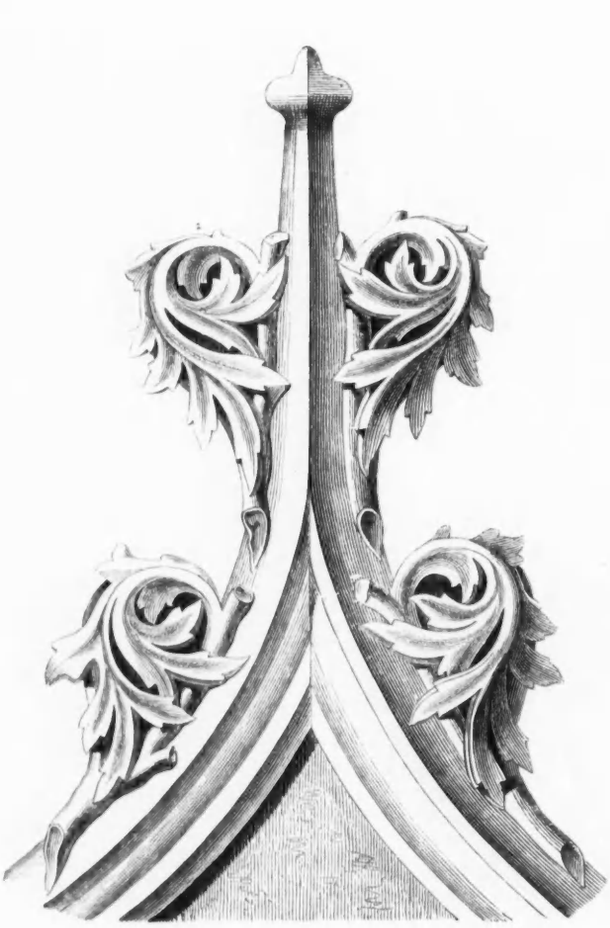

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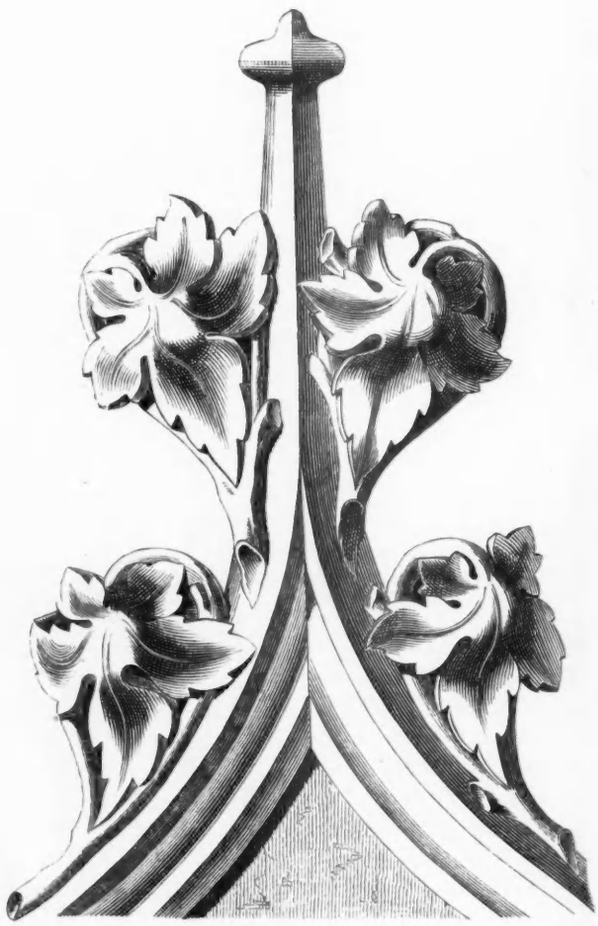
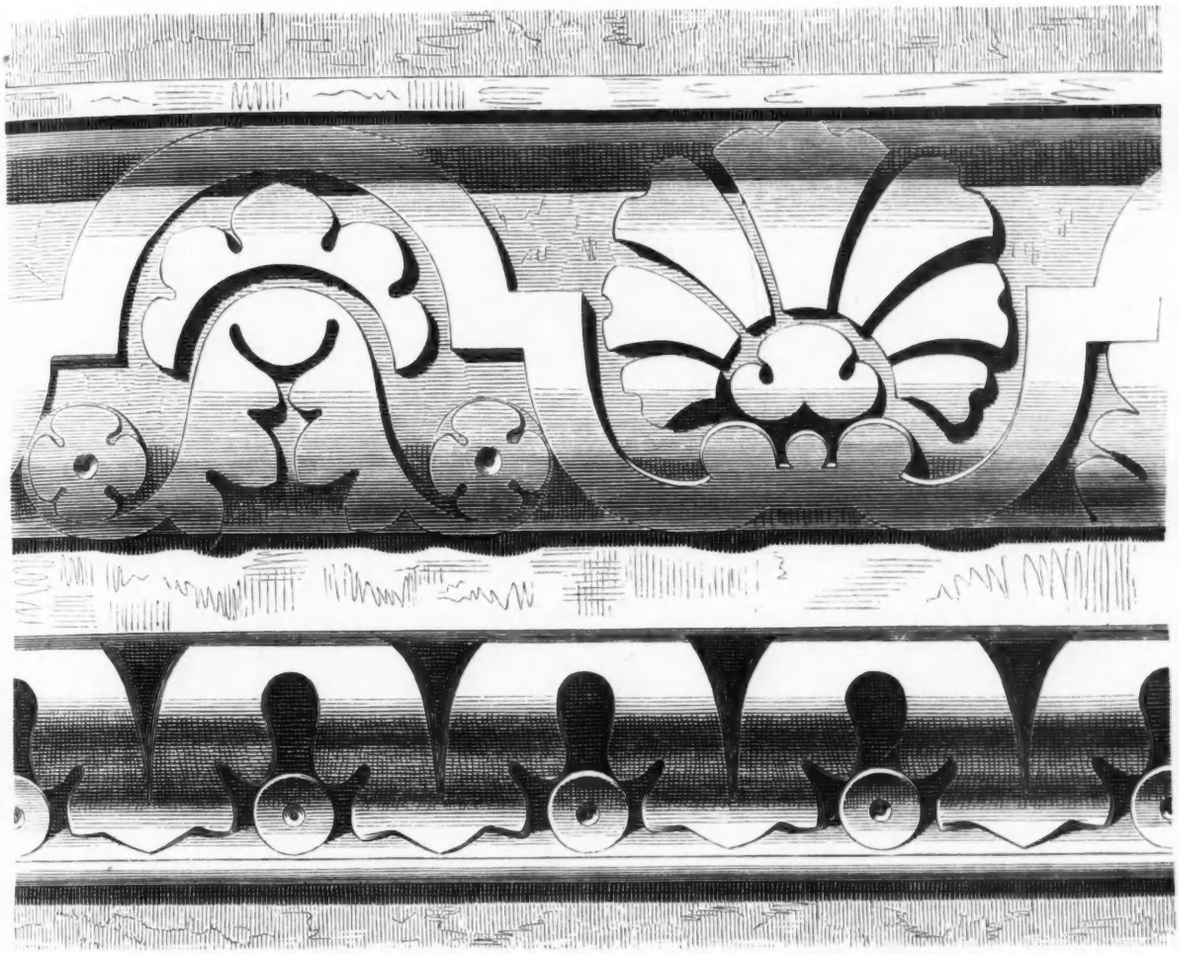


No. 4.

No. 2. Romanesque Style; Band of Foliage from gallery of West front of St. Remi's Church, Rheims.

Nos. 3 and 4. Late Gothic; Finials from Eastern Part of Chartres Cathedral.



No. 5.

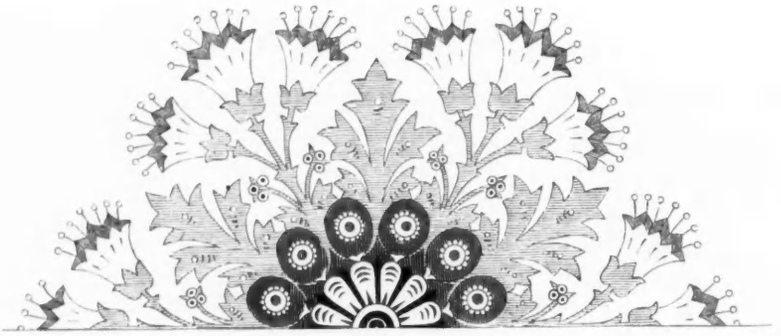
No. 6.

No. 7.

No. 5. French Renaissance; Style of Henry II. Enriched mouldings from the Louvre, Paris.

No. 6. Italian Renaissance; Capital of Pilaster from Church of Maddalena de Pazzi, Florence; 16th century.

No. 7. Modern Capital of Pilaster.



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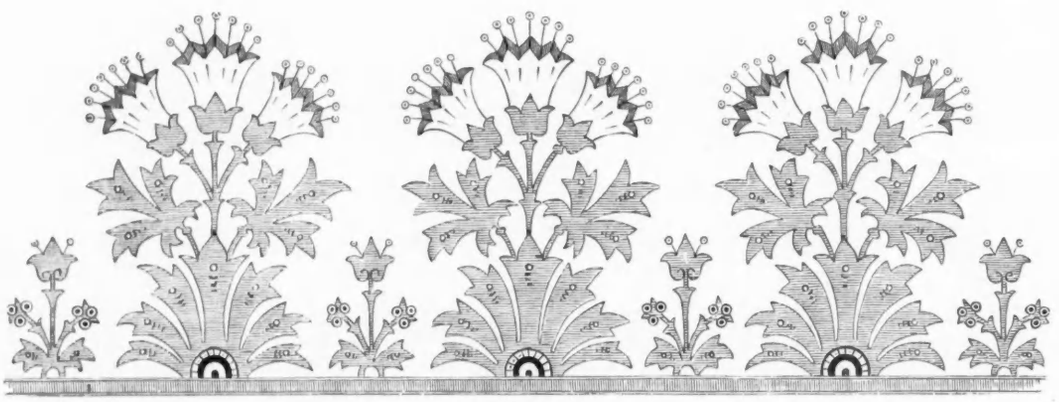

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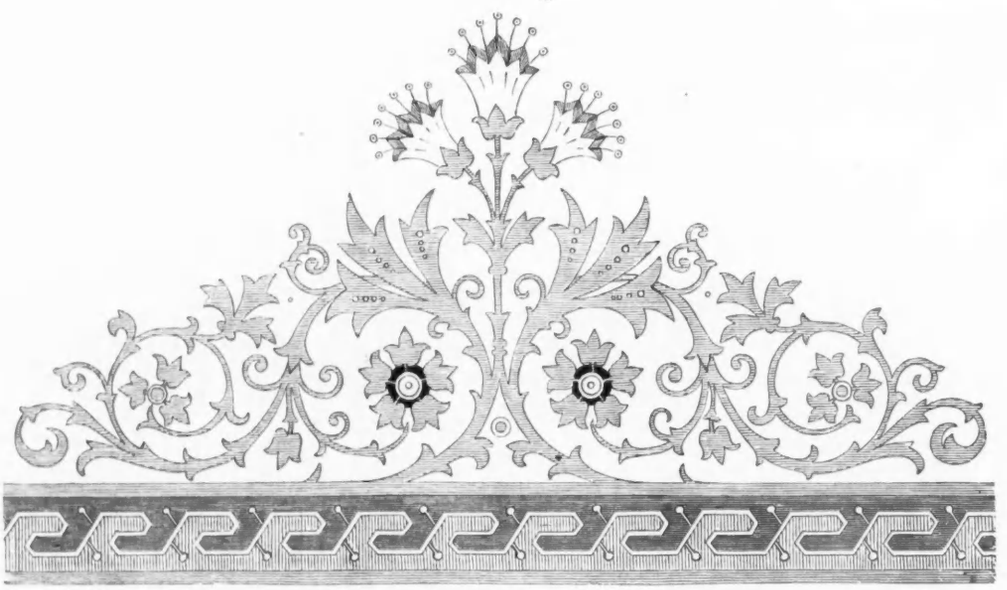

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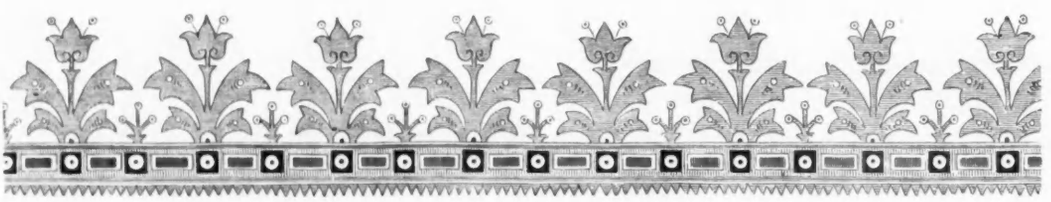
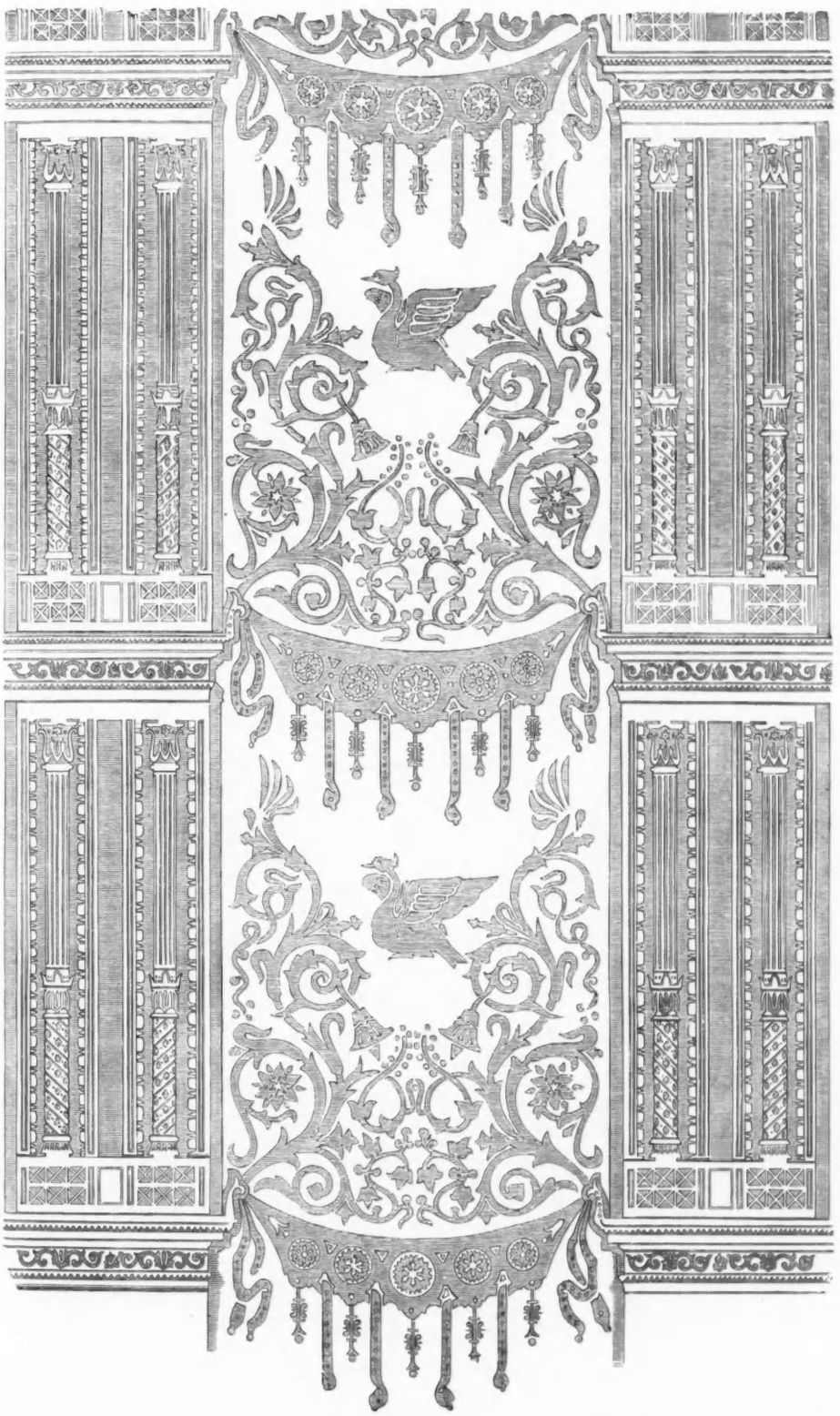


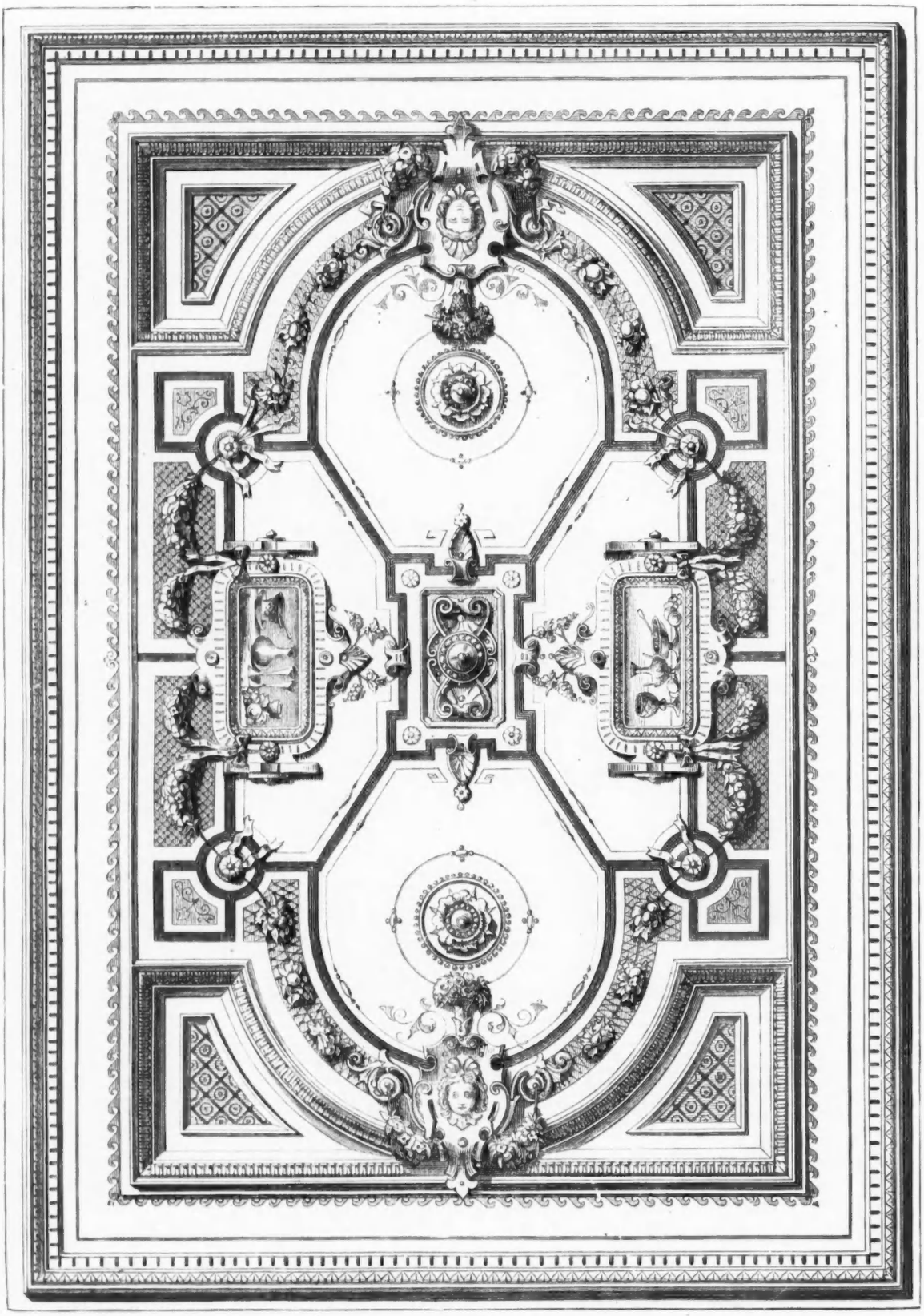
No. 11.

Nos. 8—11. Ornaments for Porcelain, Glass, or Metal.



No. 12.

No. 12. Design for Hangings; Modern French Work. For full-size details see No. 4 of Supplement.



No. 13.

No. 13. Ceiling in Stucco, for a Dining-room, with two chandeliers.

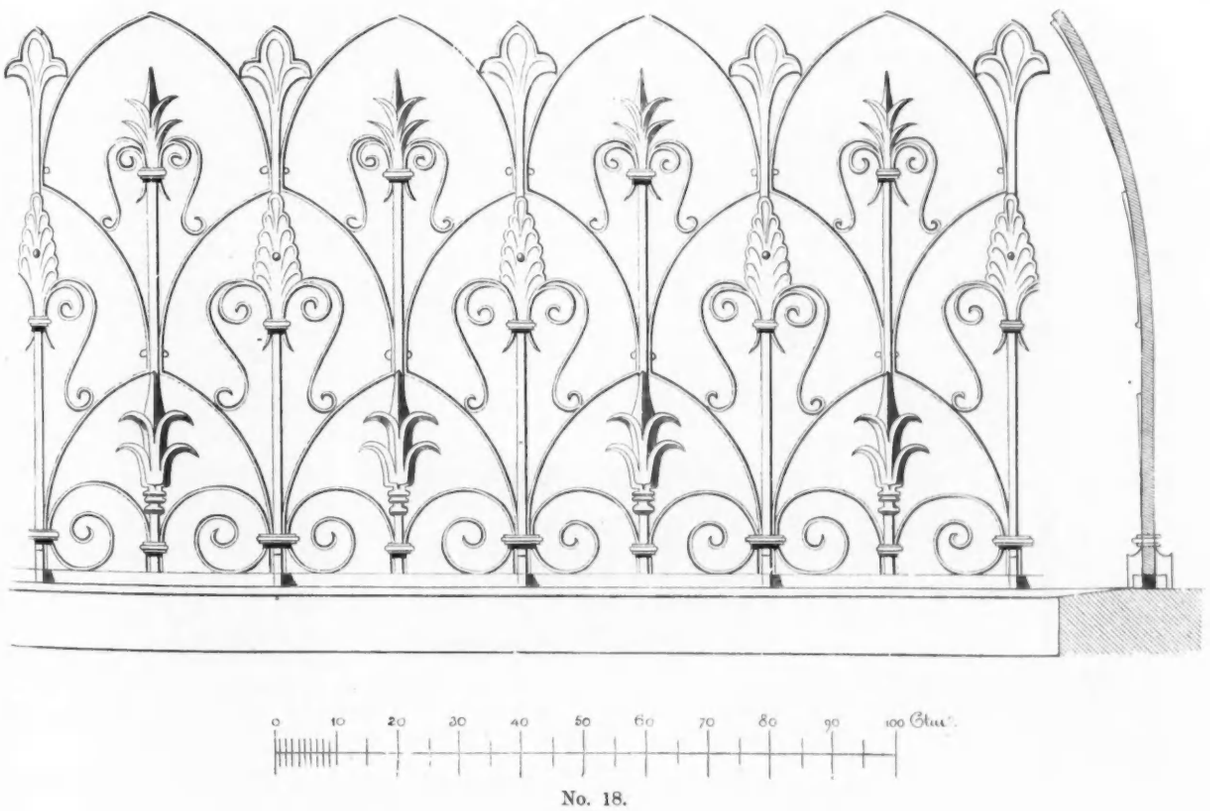
Nos. 14 and 15.

Nos 14 and 15. Album Cover with Metal Mounts and Clasp. The design intended for inlaid leather, and being, with an appropriate change of dressed and undressed leather of different colors, of excellent and manifold effect, is produced by cutting the ornaments, with suitable instruments, out of two pieces of leather of different tints, previously mounted on paper, after which they are fitted together and affixed to the cover; outlines, ribs and veins of leaves are traced or stamped in delicate gold lines; the mountings, either cast or hammered and chased, may be partly dead, partly highly polished.

No. 16.

No. 16. Oak Wardrobe, the door filled in with plate-glass; recent manufacture.
For details see Nos. 1 and 2 of Supplement.

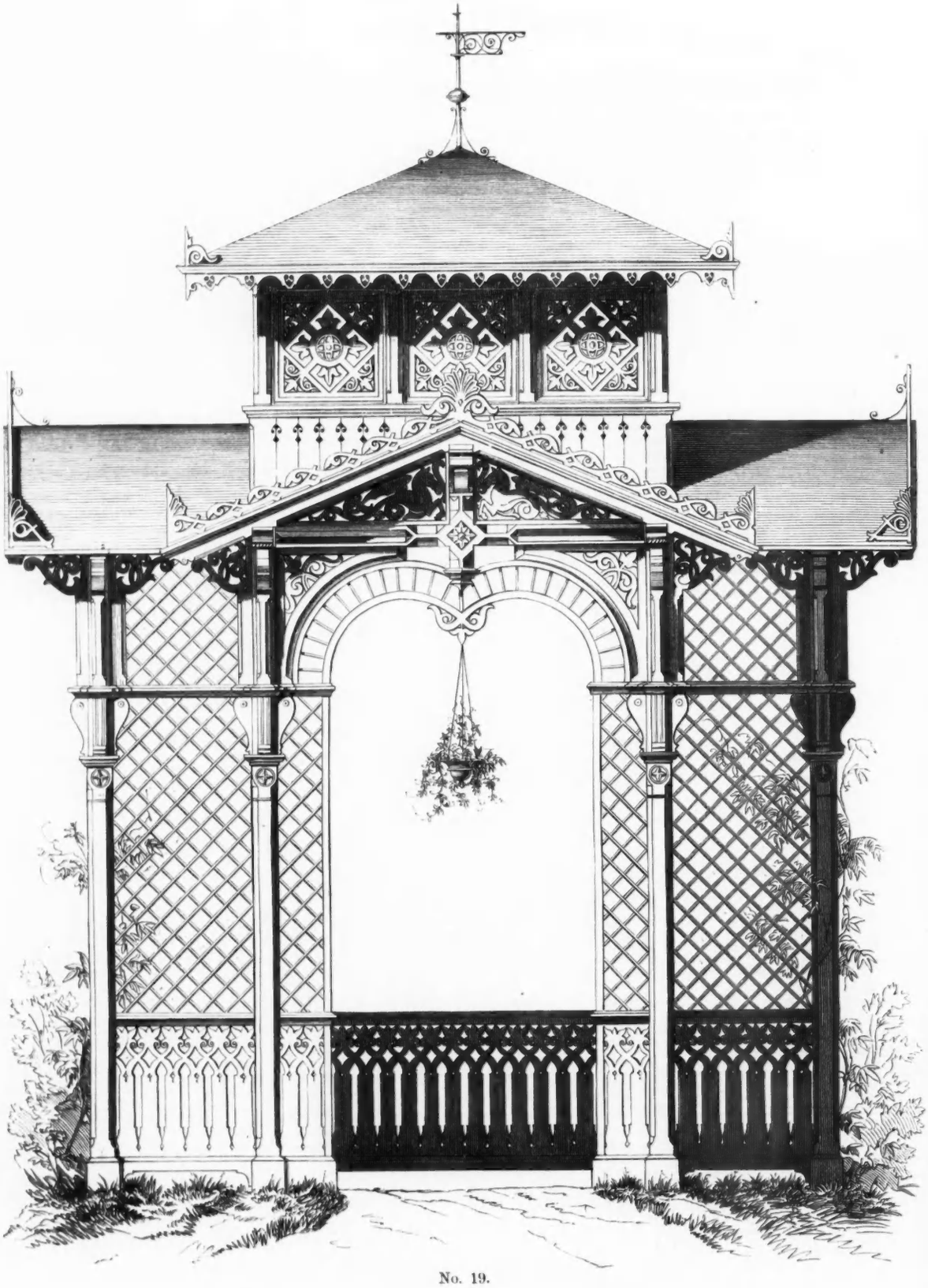
No. 17.



No. 18.

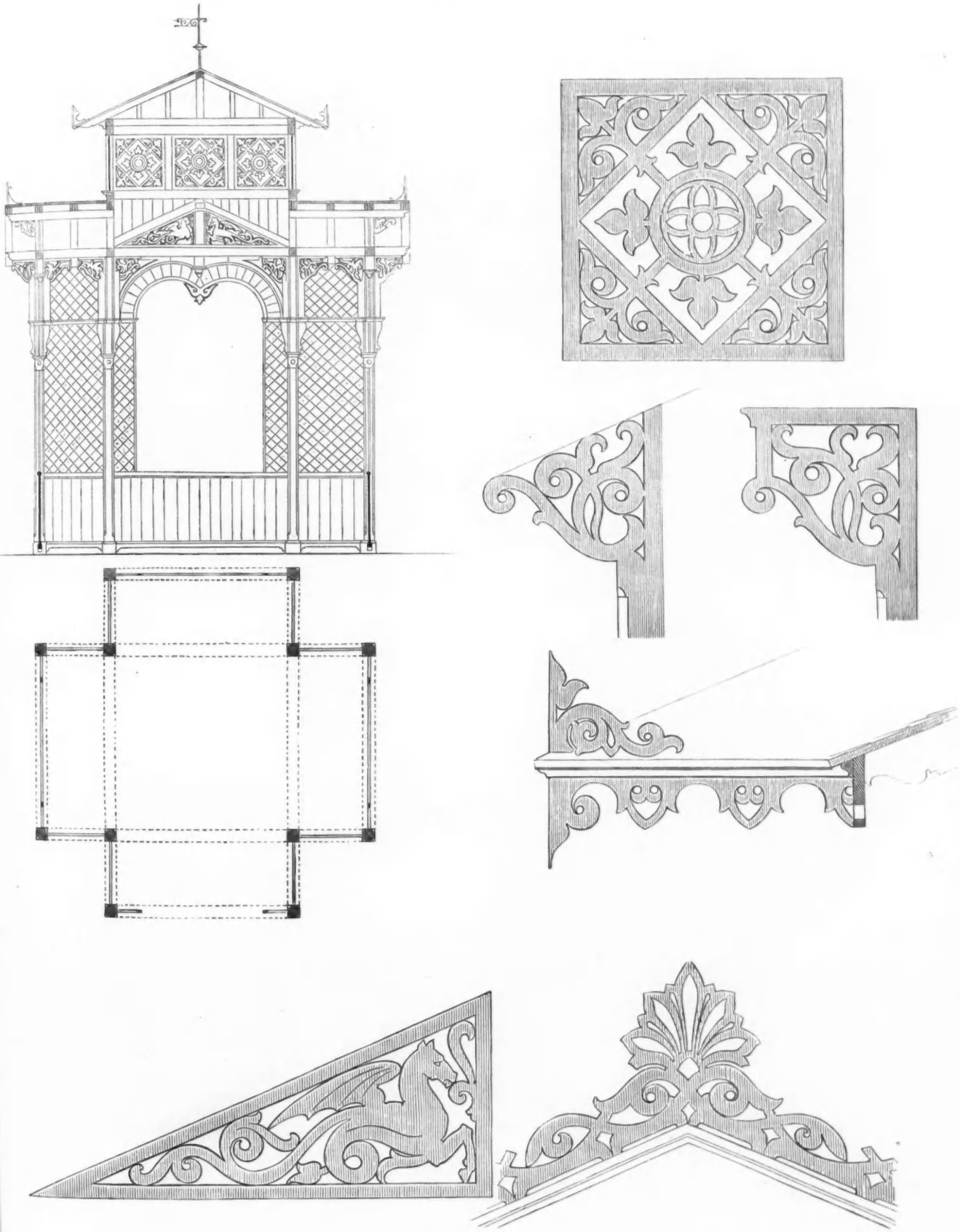
No. 17. Carved Oak Table. For details see No. 3 of Supplement.

No. 18. Wrought-iron Railing, from the Fountain of Square Louvois, Paris.



No. 19.

Nos. 19—27. Ornamental Summerhouse in Wood, with carvings and curvilinear sawings. Elevation $^1/_{24}$, section and plan $^1/_{48}$, details $^1/_8$ of real size. The ground-plan in form of a cross shows the entrance in front of one of the arms, the other three being intended for seats. The roof to be slated.



Nos. 20—27.

No. 28. No. 29.

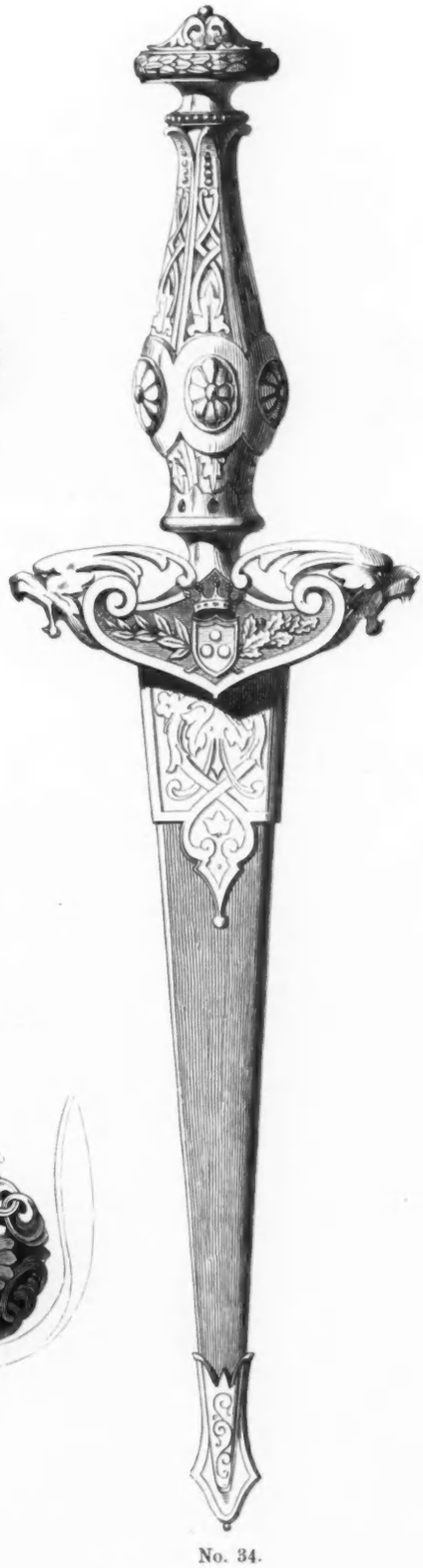
Nos. 28 and 29. Fish-bowl and Fruit-stand in Crystal with Bronze mountings; 1/3 of real size.

No. 30.

No. 31.

No. 33.

No. 32.



No. 34.

Nos. 30—33. Sword-hilt chiselled in iron; full-size. Seventeenth-century work. From the Vienna museum.

No. 34. Dagger with Hilt and Scabbard; for execution in gold, silver or oxydised bronze.

VARIOUS.

Glyphography.

Having recently made trial of the process of glyphography in connection with the reproduction of engraved plates from photographs, and having obtained a considerable measure of success, we shall describe the process, if not in complete detail, at least so minutely as to enable any of our readers to practice engraving by the process in question with a fair degree of success

A polished plate of copper, such as is usually employed by engravers, is blackened by being washed over with sulphide of potassium, sulphide of ammonium, chloride of platinum, or other means. The plate is then washed and dried, and is evenly coated with a mixture of wax, resin, and sulphate of lead, the thickness of the coating not exceeding a thirthieth of an inch. This coating is white and smooth, and the plate when thus prepared is ready for being sketched upon, or, as was the case in our trials, for being photographed upon. The details of our method of effecting the photographic part of the operation shall form the subject of another communication.

On the figure thus photographed, or traced by pencil, the artist proceeds to make his drawing with little tools like needle points, fixed in wooden handles. These tools should vary in size, or rather in the thickness of the point, according to the nature of the work intended to be accomplished.

It will be found most advantageous to use tools one side of which has been filed flat, and a curve given to them near the point by bending them while heated in the flame of the gas. Every touch or stroke of the artist should penetrate through the waxy varnish to the surface of the plate, which, being black, reveals every touch — the work thus appearing black on a white ground, in the same manner as if it were effected by pen and ink on white paper.

The coarseness or heaviness of the lines depends upon the tool by which they are cut; hence broad lines require a tool flattened at the point like a chisel. The drawing must be made as in nature, or non-reversed.

When the picture is examined and found to be right, it is dusted over with plumbago, which by means of a bushy camel's-hair pencil, is distributed through every line and over every part of the surface.

Although we find that other conducting substances, such as bronze powders, act better than plumbago, we have very beautiful pictures produced by Mr. Palmer, in which the coating is the same as that here described.

The plate thus prepared is immersed in an electrotype cell, and a thin tissue of copper is deposited on it by the battery. When the plate has been immersed at night, we find in the morning that the deposit of copper is sufficiently thick to allow of its being removed.

The battery we use is Smee's and the depositing solution is the sulphate of copper, rendered decidedly acid with sulphuric acid.

The cast thus obtained must be backed up with soft metal, sec. art., and in this state it will, if printed from as a wood engraving, yield an exact fac-simile of the original drawing.

If it be required to lower broad masses of white, this can be effected in one or other of the following ways:

After the drawing has been finished, and before it is brushed with black lead, paint over the broad masses of white with melted wax, and let the thickness of the mass thus painted on the surface be determined by the area of the white portion, care being taken not to approach too closely to the lines of the drawing. This having been done, proceed with the plumbago as already directed.

Another way by which to lower the broad whites is to take a cast in plaster of Paris from the original plate, and in this cast to lower any part required by means of a suitable gouge-shaped tool. From the plaster block thus trimmed may be obtained by means of recasting in plaster and stereotyping, any number of metal blocks in a condition ready for printing.

We have in our possession some pictures which have been obtained from surface blocks prepared nearly as described, and which are so fine and delicate as to warrant any person unacquainted with the method of their production is believing that they were printed from engraved copper or steel plates.

British Journal of Photography.

Oxyhydrogen Light.

The experiments commenced last year on the Place de l'Hôtel de Ville, in Paris, on the oxyhydrogen light, are about to be continued, by order of the Emperor, in the court of the Tuileries.

The magnesia cylinders having been found to corrode and waste away too rapidly for the purposes of a continuous light, an artillery officer, M. Caron, after experimenting with a variety of substances, has adopted zircon, a substance which Berzelius pointed out as infusible, and giving forth a very brilliant light under the blowpipe. It is said that M. Caron has had a cylinder of this substance in use with the oxyhydrogen light for a month without the slightest trace of volatilization. The luminous power of zircon, under the oxyhydrogen jet, is about one fifth more than that of magnesia. The zircon employed is an oxyde of zirconium; it is found principally near Miask, at the foot of the Ural mountains. M. Caron economises the zircon, by mounting a point of it on a small stick of magnesia or fire-clay, the zircon being made to adhere by compression and afterwards baking.

Journal of the Society of Arts.

Iron Stoves.

Some of the French doctors have started a fresh crusade against iron stoves. Dr. Carret, at Chambery, notized a great deal of unaccountable disease in schools and institutions; and thought he could trace the mischief to the introduction of cast-iron stoves. Dr. Deville, in a paper read before the Academy in Paris, says that he proved by a mechanical contrivance that such stoves do give off noxious vapours. He had two bells so connected with electrical apparatus that they should ring when hydrogen or carbonic oxyde was given off. Not long after the stove had got thoroughly heated both the bells began to ring. If it is proved that iron heated beyond a certain point gives off unwholesome gases, we had far better adopt the German stove, so much more capable, by the way, of being made a graceful piece of furniture, than our cast-iron abominations. Such a reform would naturally lead to the disuse of the wretched frontage of painfully black-leaded iron round or fireplaces, and a return to the good old Dutch tiles.

Imperial Review.

Effectual Method of Cleaning Glass.

In order to clean glass, and restore its former brightness and transparency, should the usual treatment have proved insufficient, take a little fluoric acid of commerce, dilute it with 4 or 5 times its volume of water, pour a few drops of the diluted acid on a small pad of cotton wool, rub therewith the surface of the glass and then wash it off with water. By this method a thin layer is dissolved on the face of the glass, thereby uncovering a new surface. If a more concentrated solution of fluoric acid is allowed to rest sometime on the glass a concave surface of high brilliancy is thereby produced.

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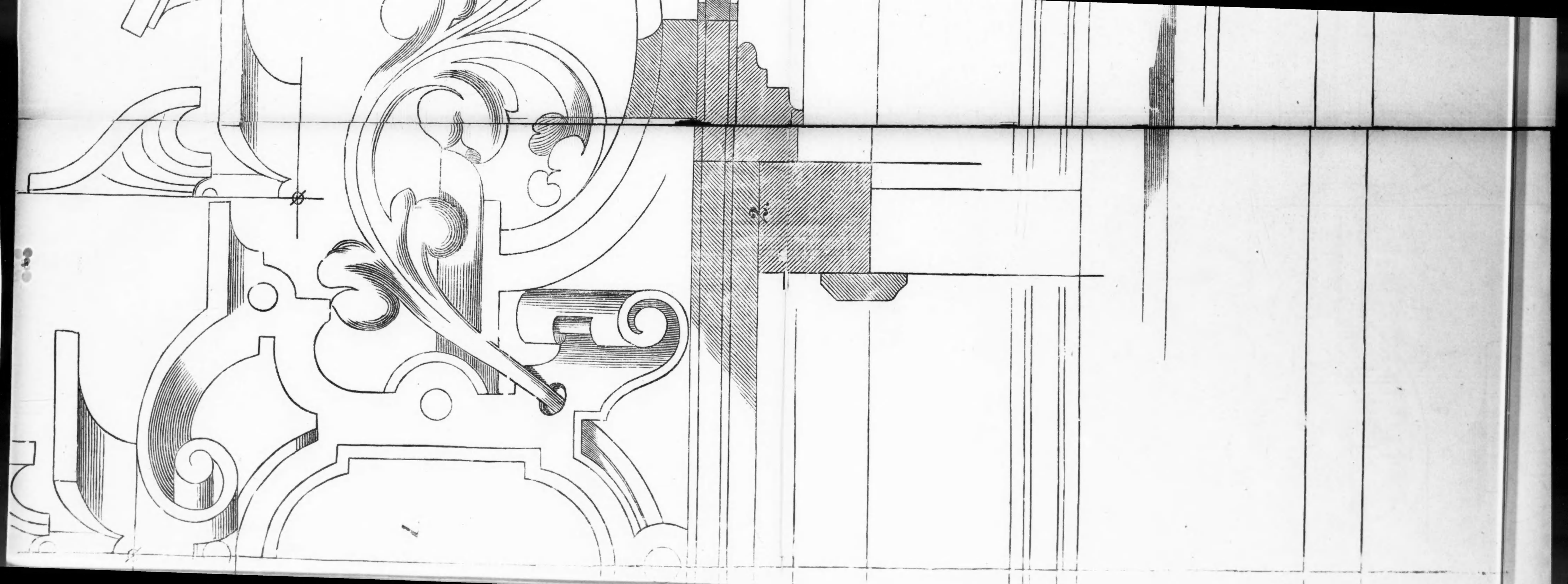

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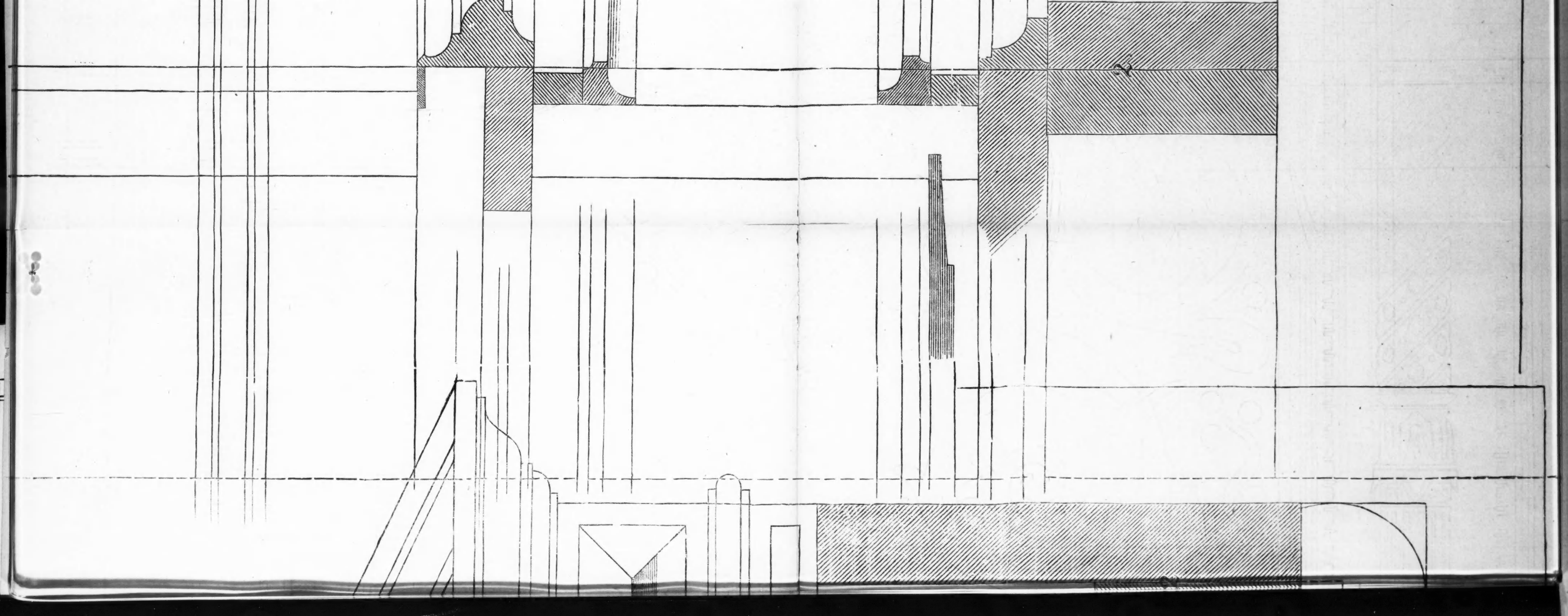

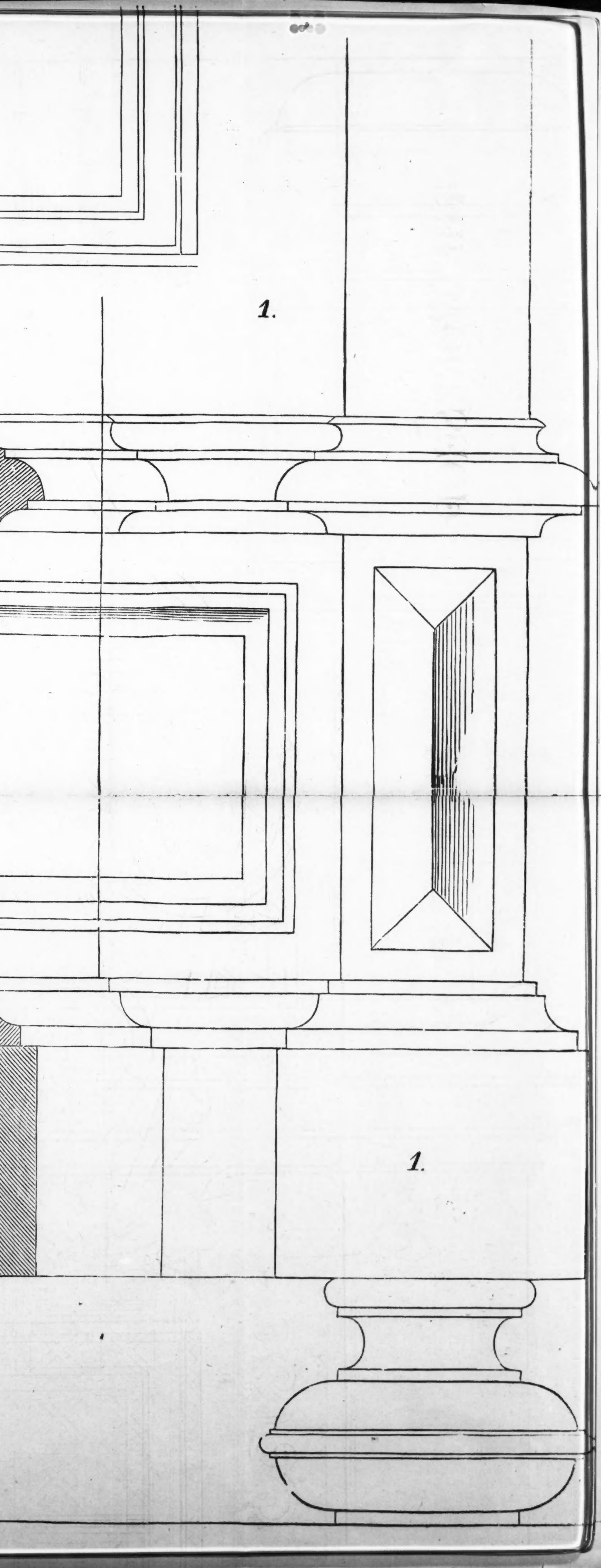

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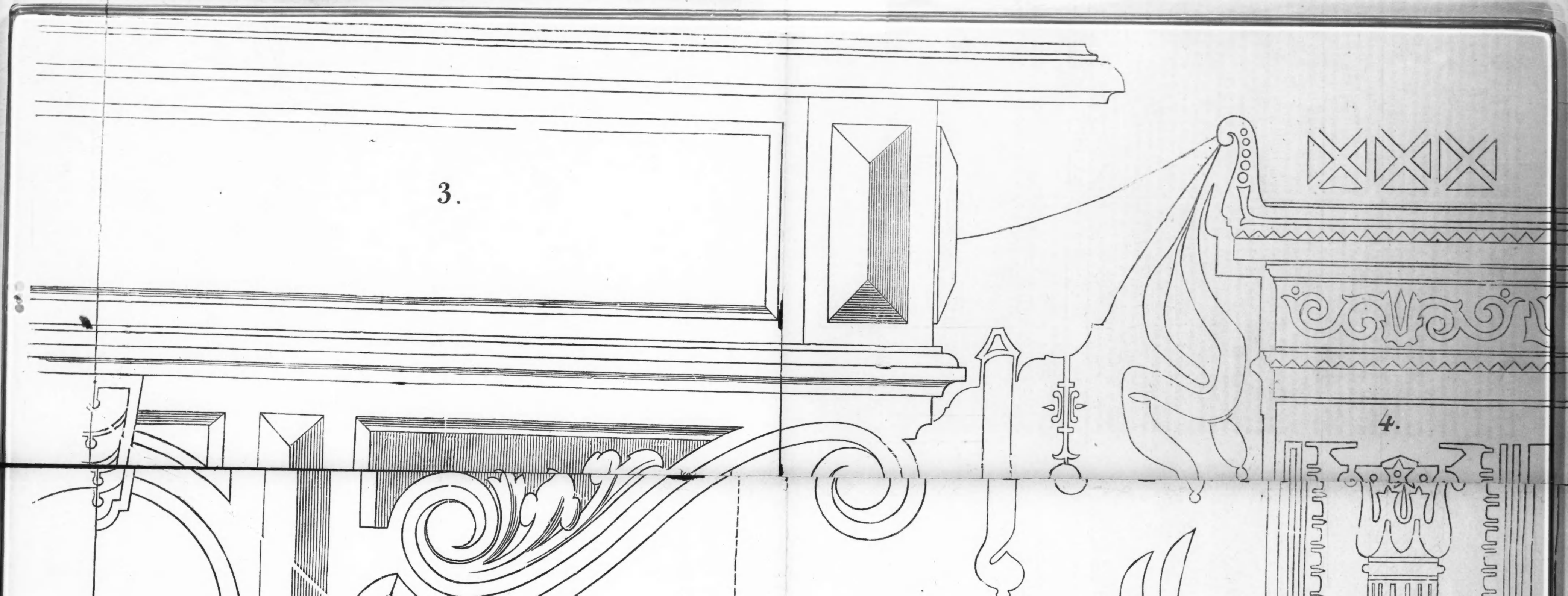
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